

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matters of

International Comparison and Survey)	GN Docket No. 09-47
Requirements in the Broadband Data)	
Improvement Act)	
)	
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
)	
Inquiry Concerning the Deployment of)	GN Docket No. 09-137
Advanced Telecommunications Capability)	
to All Americans in a Reasonable and)	
Timely Fashion, and Possible Steps to)	
Accelerate Such Deployment Pursuant to)	
Section 706 of the Telecommunications)	
Act of 1996, as Amended by the)	
Broadband Data Improvement Act)	
)	
)	

REPLY COMMENTS OF INTERNET2 – NBP PUBLIC NOTICE #1

INTRODUCTION

Internet2's reply comments focus on two issues. First, the definition of "broadband" should vary depending upon whether the services are provided to community anchor institutions and businesses on the one hand (collectively, "Enterprises"), or to individual consumers on the other hand. Second, the definitions of broadband for Enterprises and individual consumers, respectively, should encourage the construction of networks that will ensure that such users have access to the applications

they need, and that the United States regains a leadership position in the global economy with respect to broadband.

I. Broadband Must be Defined Differently for Enterprises than it is for Individual Consumers (Question 1B)

If a caterer receives a request to serve dinner at a particular location, the amount of food necessary is dependent upon one fact: how many people will be served. For example, the amount of food required to serve five hundred people at a business location is far greater than the amount necessary to serve five residents in a single-family home.

This same principle applies with respect to broadband. The amount of bandwidth required varies depending upon whether the services are being delivered to an Enterprise where several hundred employees will use it simultaneously, or a family where at most four or five people will use the services.

Thus, bandwidth that may be completely satisfactory for individual users in a residential home will be wholly insufficient for an Enterprise. Accordingly, the Commission must adopt at least two definitions for broadband – one that applies to Enterprises and one that applies to individual consumers.¹

The importance of properly defining broadband for Enterprises cannot be understated. Enterprises, such as community anchor institutions, are critical to the continuing evolution of broadband in this country. Today, there are far too many people in the United States that have no realistic means of accessing or utilizing broadband. Community anchor institutions, if they have adequate broadband to meet their patrons' needs, can change that once and for all. If every community anchor institution had

¹ Some other commenters in this proceeding recognize that different definitions need to apply for Enterprises and consumers. See, e.g., Comments of the National Association of Telecommunications Officers and Advisors, GN Docket No. 09-47, 09-51 (August 31, 2009) ("NATOA Comments") at 4.

adequate broadband service for such institution, then virtually every American would at least have access to broadband very close to his or her home. Moreover, if a person does not know how to use broadband or the benefits of it, the community anchor institution's employees can often provide the necessary education at no charge.

But community anchor institutions can only effectively serve the public if they have sufficient broadband for all of their users. Just as a dinner that serves five is not nearly enough to serve five hundred people, broadband speeds that are sufficient for an individual consumer are not nearly sufficient for community anchor institutions that often have hundreds of users or more.

II. In Defining Broadband, the Commission Should Seek to Ensure that it Will Not Have to Alter the Definitions It Adopts for a Minimum of Five Years, and Preferably Longer (Question 2A)

For the reasons discussed in Internet2's comments in this proceeding, and for the additional reasons set forth below, the Commission should provide definitions for broadband that can be sustainable for at least five years.

A. The Commission's Broadband Plan for the Future Should be a Roadmap to Success, Not a Justification for Failure

The comments in this proceeding reflect two different schools of thought with respect to the definitions of broadband. Commenters such as Internet2, the National Association of Telecommunications Officers and Advisors ("NATOA"), Free Press, and the Organization for the Promotion and Advancement of Small Telecommunications Companies ("OPASTCO"), all take the view that the Commission should develop a plan for the future that seeks to ensure that the United States is a leader in the global economy

with respect to the usage and development of broadband applications.² Many incumbent providers, on the other hand, take a far different view – one that may have been appropriate a number of years ago, but is at best outdated now.³

As an initial matter, nearly everyone would agree that if Enterprises and individual consumers do not have access to services that have the bandwidth necessary for the applications they need, and if the United States remains well behind many other countries with respect to broadband, that such would constitute failure. Yet, some incumbent providers are requesting that the Commission maintain definitions of broadband that are orders of magnitude below those necessary to support the applications that many are using *today*, let alone the applications that are likely to be developed and used tomorrow. A broadband plan for the future is not meant to form a basis for repeating the mistakes of the past. The Commission needs to define broadband in a manner that encourages success, not justifies failure. If, because of the comments of these incumbent providers, the Commission inadvertently aims to underachieve here, it almost certainly will.

Today, many Enterprises are using 1 Gbps, and others are using 10 Gbps or more. Given the number of users these Enterprises often have, and the bandwidth-intensive applications they need to use, access to these broadband speeds are vital to their success. Many individual consumers, on the other hand, need and are using between 10 Mbps and 100 Mbps. Moreover, network traffic continues to grow at astonishing rates, and new,

² See NATOA Comments at 2-5; Comments of the Organization for the Promotion and Advancement of Small Telecommunications Companies, GN Docket No 09-47, 09-51, 09-137 (August 31, 2009) (“OPASTCO Comments”) at 1-2, 4-14; Comments of Free Press, GN Docket No. 09-47, 09-51 (August 31, 2009) (“Free Press Comments”) at 3-4, 14-15.

³ See e.g., Comments of AT&T, GN Docket No 09-47, 09-51, 09-137 (August 31, 2009) (“ATT Comments”) at 2-6; Comments of Verizon and Verizon Wireless, GN Docket No. 09-47, 09-51, 09-137 (August 31, 2009) (“Verizon Comments”) at 4-7.

and even more bandwidth-intensive applications, are constantly being developed. As the Commission recognized in its report on a Rural Broadband Strategy:

Bandwidth-intensive applications could very quickly become the norm in the U.S. – even in rural areas. Technologies that cannot be upgraded easily could make Internet applications less than five years from now look like the dial-up downloads of today.⁴

Notwithstanding the above facts, some incumbent providers believe that broadband should be defined to begin at speeds lower than 1 Mbps.⁵ These providers argue that broadband should continue to be defined using very low rates in order to be consistent with the past, and so that we can claim success when more people obtain these very low rates.⁶ But they are missing the point on both ends. The goal here is not to be consistent with the past, but to improve upon it. Stagnation serves no one, and will only put the United States further and further behind other countries with respect to broadband.

As for allowing low rates to be considered broadband so that we can claim success, that is the ultimate example of fooling yourself. What matters here is not whether we can claim “success,” but whether we actually are successful. And that will only occur if users can access the applications they need and the United States regains its position as a global leader with respect to broadband. Simply put, the reality of the circumstances here are far more important than the perception some would like the Commission to create.

In short, the approach recommended by some incumbent providers would ensure that the United States remains behind many other countries with regard to broadband, and that our citizens would generally be unable to access many of the applications they need.

⁴ Acting Chairman Michael J. Copps, Federal Communications Commission, Bringing Broadband to Rural America: Report on a Rural Broadband Strategy, GN Docket No. 09-29 (May 22, 2009), ¶ 11.

⁵See e.g., ATT Comments at 2-6; Verizon Comments at 4-7.

⁶Id.

The Commission should reject these incumbent providers' request to define broadband using very low rates. Given the importance of broadband to this country, this is not the time to set our sights too low, i.e., to "shoot for the floor." The Commission should not take an approach that dooms the broadband plan to failure even before the ink on its pages are dry.

B. Developing the Most Scalable Technology from the Outset Costs Less

The tremendous utility of greater broadband speeds is well-documented, and includes not only the significant benefits of bandwidth-intensive applications, but also the incentive to develop new applications. Moreover, aiming high, rather than shooting for the floor, not only gives the public what it wants and needs (as well as what it will need in the near-term future), but it will cost less as well. As OPASTCO discussed in its comments, "it is more efficient to deploy networks with greater capacity, rather than to manage the traffic on lower-capacity networks.... [because] it is more efficient to deploy the most scalable technology from the outset."⁷ Adopting any other approach will result, in a few years, in many providers being forced to totally revamp or rebuild networks to meet the needs of consumers, rather than making merely minor modifications to their networks.

⁷OPASTCO Comments at 4, 10.

C. The Definitions for Broadband

In light of the foregoing, broadband to Enterprises should be defined, at a minimum, as equaling 1 Gbps or higher in both directions. To use lower rates is to ignore the reality that many Enterprises are already using 1 Gbps and some are using much higher rates. If the broadband plan is truly a plan for the future, the Commission must step forward here, rather than backwards. NATOA, which is comprised of local governments and agencies, likewise states that in the near term the minimum threshold for service to Enterprises should be 1 Gbps.⁸

With respect to service to individual consumers, Internet2 believes the proper definition of broadband is 100 Mbps, which is consistent with the needs of some consumers today, and many more consumers in the very near future.⁹ Given that four, five or six consumers may live in a home, and all or most of them may be using broadband-intensive applications at the same time, even 100 Mbps may not always be enough.¹⁰ Once again, if we set our sights too low with respect to defining broadband,

⁸ NATOA Comments at 4.

⁹ Cisco Systems has commented that the Commission “should aspire to ensure that 100 percent of Americans have access to... technology offering 100 Mbps per second both upstream and downstream.” Comments of Cisco Systems, Inc. GN Docket No. 09-51 (June 8, 2009) at 10-11. Google states that such goals raised by Cisco in its comments are obtainable. Comments of Google, Inc. GN Docket No 09-47, 09-51, 09-137 (August 31, 2009) (“Google Comments”) at 6. Similarly, Covad Communications states that “the definition of broadband must be carefully crafted” to support approaches that, with limited exceptions, “aim for the delivery of at least 100 megabits per second to the great majority of US consumers by 2015....” Comments of Covad Communications Company. GN Docket No 09-47, 09-51, 09-137 (August 31, 2009) (“Covad Comments”) at 3. Of course, for virtually all Americans to have access to at least 100 Mbps within a few years, the Commission must encourage the construction of networks now that are capable of providing such services all across the country.

¹⁰ Cf. OPASTCO Comments at 5-8.

the United States will finish near the bottom, rather than the top, in terms of competing in the global economy.¹¹

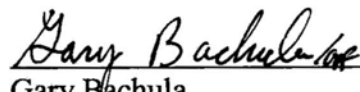
Internet2 recognizes that the definition of broadband will need to be different for wireless services. We also recognize that there may be some very remote areas of the country that cannot, for all practical purposes, receive wireline services. But such areas should not cause the Commission to ignore the needs of everyone else or keep the United States lagging behind other countries with respect to broadband. The Commission must define broadband in a way that we are moving forward, not standing still.

CONCLUSION

For all of the foregoing reasons, the Commission should define broadband in a manner consistent with the arguments set forth herein.

Respectfully submitted,

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¹¹ See Google Comments at 6 & n. 9 (“[A]ccording to statistics released by the Organization for Economic Co-operation and Development (“OECD”), the average advertised broadband connection speeds of the top 10 highest ranking countries is approximately 177 Mbps,” and “the OECD statistics are used here as reference points only and to demonstrate that for America to become a world leader in broadband, it must aim as high – and eventually higher – than the currently top ranked countries.”)

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